Site Preparation

DisplayMaker® 72UVR

Site Preparation Guide

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Part No. 0706274 Rev A

Preparing for Your New Printer

Follow these guidelines to prepare your site for delivery of the printer.

- A technical representative will work with you prior to installation to prepare your site to receive and install the printer.
- Refer to the printer's *User Manual* for detailed unpacking and assembly instructions, and parts list.
- Refer to the *Watch Me First* video, provided on CD-ROM, for detailed demonstrations of printer unpacking, assembly, and operation.
- If you are also installing a ColorSpan print server, refer to the *Quick Start Guide* that accompanies the print server for instructions on connecting the printer and clients to the server, and installing software.

Electrical Power

The printer has special electrical power and outlet requirements that must be met prior to installing the printer. See "Specifications" on page 5 for details.

Receiving and Unpacking

The printer and tables are delivered to your site packed in one cardboard box, strapped on a wooden pallet.

It will take two to four persons to lift and move the printer box. Use the following dimensions and weights as you plan to receive and move the printer to its final location:

Table 1: Shipping Dimensions and Weights

Box Dimensions	Height: 43.5 inches (110.5 cm) Depth: 32.0 inches (81.3 cm) Width: 136.5 inches (346.7 cm)
Shipping Weight	745 lbs. (338 kg)

As you plan to receive, assemble, and locate the printer, consider these scenarios depending on the width of the hallways and doorways between the receiving area and the printer's final location:

- Move the printer and stand to the final location in the original shipping packaging, then unpack and assemble the printer, or
- Assemble the printer and stand in the receiving area, then wheel it on its casters to the final location

Locating the Printer

You will probably need to run the printer on a dedicated circuit to meet its power requirements (see Table 2, "Specifications," on page 5). The printer is supplied with the required power cord, which must not be lengthened or attached to an extension cord. Refer to Table 2 for detailed specifications.

Locate the printer on a flat, stable surface that supports all four legs with no rocking or other movement.

The **ColorSpan print server** can be connected to a standard 15 amp, 110 or 220 VAC circuit. The server's power supply automatically senses and switches to accept the voltage range being supplied. It can be connected to the same circuit as the printer, provided that the circuit's current rating is not exceeded. If you are using a non-ColorSpan print server or RIP, consult the manufacturer's documentation for detailed power requirements.

Space Requirements

Allow enough space around the front, rear, and sides of the printer to load and unload ink and media, and operate the control panel at the front of the printer. The exact space required depends in part on whether you will have rigid media tables installed.

For further details, see the diagrams below and the dimensions shown in Table 2, "Specifications," on page 5.

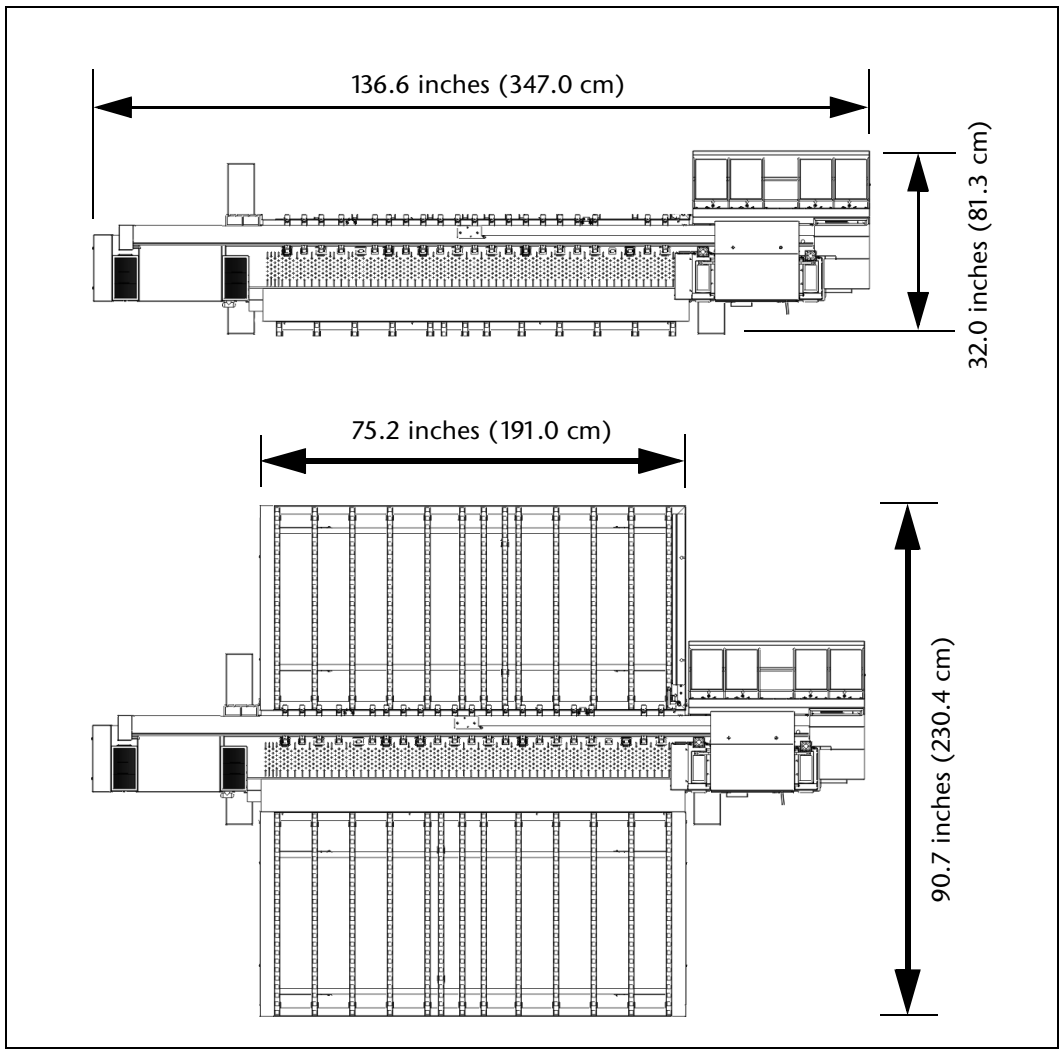
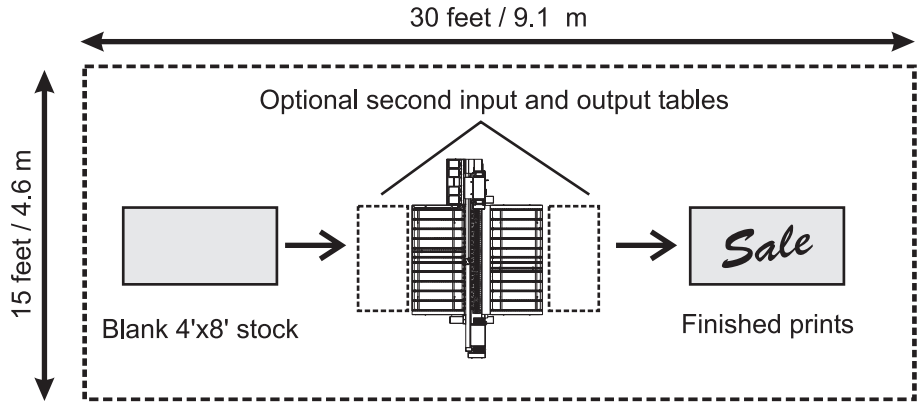


Fig. 1. Top view with dimensions

When the input and output tables are installed for rigid cut-sheet printing, additional space in front and back of the printer is required.

The rigid cut-sheet workflow used with the printer requires some space planning for operator movement between the blank media stock (pallets or tables), the printer when loading media, operating the printer, and unloading media. Cut sheets can be loaded from either the front or the rear of the printer.

For further details, see the diagrams below and the dimensions shown in Table 2, “Specifications,” on page 5.



Support Equipment

You will need an area near the printer to store media and ink, and to finish and package prints for shipment or distribution. For best results, media and ink should be stored in a temperature- and humidity-controlled environment similar to the printer’s environment.

Rigid cut-sheet media should be stored flat and not stored for long periods before use. Any warping of this media will increase the likelihood of the carriage striking it during printing, or media feed problems.

UV Cure Ink is Perishable

Unlike other inks used in wide format printing, UV cure ink has a limited shelf life. Plan to rotate your ink stock and use it promptly by the date printed on the ink box.

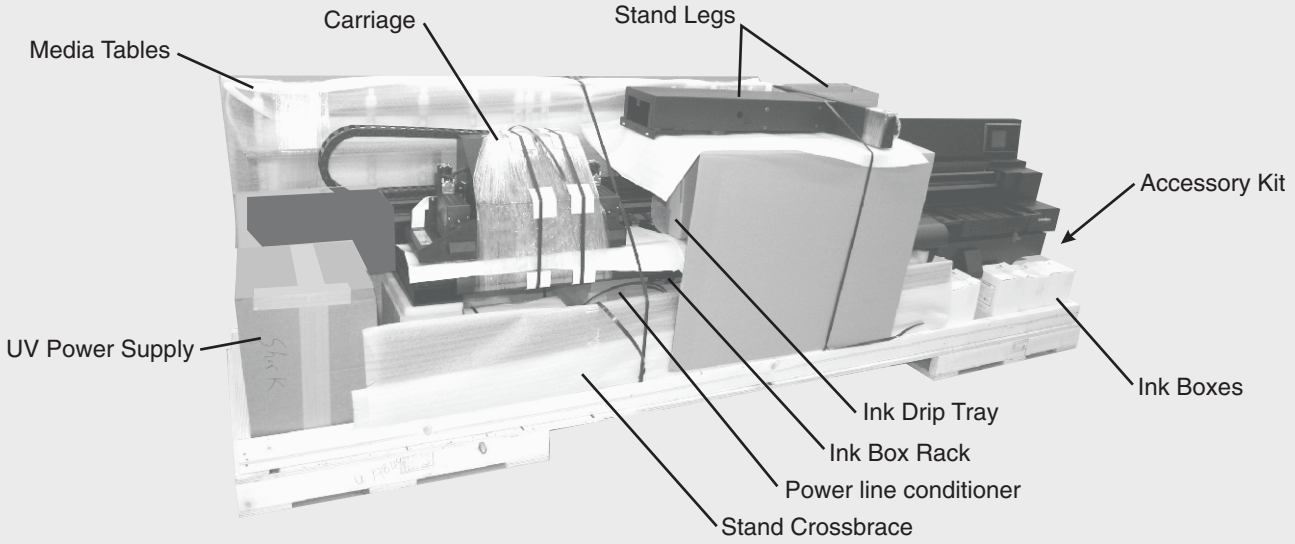
Safety Information

- **UV light** — the ultraviolet (UV) curing lamps emit high power UV light. The printer must be operated with all safety shielding installed to protect the operator from eye and skin damage. When operated according to manufacturer’s instructions, safety glasses or other protective clothing are not necessary.
- **Ozone** — the high power UV light emitted by the curing lamps reacts with oxygen and produces ozone. This formation tends to be greatest during lamp start-up. The printer should be operated in a well-ventilated area to avoid minor effects such as headaches, fatigue, and dryness of the upper respiratory tract. Normal air movement will mix the ozone with fresh air, causing it to revert back to oxygen.
- **Ink** — read and practice safety guidelines as outlined in the Material Safety Data Sheet (MSDS) for each ink, and post the document in the work area as required by prevailing law.

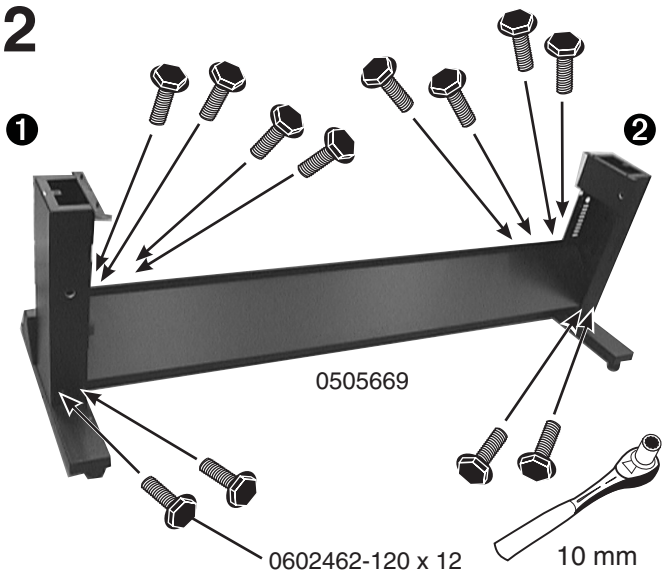
Table 2: Specifications

Dimensions (Assembled)	Height: 53.0 inches (134.6 cm) Depth without tables: 32.0 inches (81.3 cm) Depth with tables: 90.7 inches (230.4 cm) Width: 136.6 inches (347.0 cm)
Weight (Assembled)	Without tables: 375 pounds (170 kg) With tables: 500 pounds (227 kg)
Operating Conditions	**Temperature:** 68–95° F (20–35° C) **Relative Humidity:** 20–80%, non-condensing
Storage Conditions	**Temperature:** -30–120° F (-34–49° C) **Relative Humidity:** 10–80%, non-condensing
Agency Compliance	**Safety:** UL, c-UL, CE **Emissions:** FCC-A, CE, VCCI-1 **Immunity:** CE
Electrical Power	**Power used:** 200-240 VAC, single phase, 50/60 Hz, 16 Amps maximum **Required electrical circuit:** 220 VAC, 20 Amps, with NEMA L6-20R locking wall receptacle (North America and Japan), ***OR*** 220 VAC, 16 Amps, single phase, with IEC 60309 wall receptacle (Europe) **NEMA L6-20R** locking wall receptacle (North America/Japan) **IEC 60309** wall receptacle (Europe) **Required power cord (supplied with printer):** ◆ North America (UL/CSA approved), length 8.2 feet (2.5 m), ***OR*** ◆ Europe (Harmonized), length 8.2 feet (2.5 m) **North America:** If your building receives power from a standard three-phase supply, note that the printer will use only two of the three phases. This means that your building's three-phase power transformer may have an unbalanced load. Check with your electrician to verify that your building has sufficient capacity for this unbalanced load. **Optional auxiliary power for vacuum system:** Supplied 24 volt DC power supply with universal adapters, connected from the 24 VDC jack on the vacuum/pressure assembly to either of two options: **1. UPS** — customer-supplied uninterruptable power supply, output 100-240 VAC, 50/60 Hz, minimum of 15 watts of power, provides battery backup to the vacuum system in the event of a power failure. **2. Wall outlet** — 100-240 VAC, 50/60 Hz, provides temporary power to the vacuum system when it is necessary to power down the printer for service.

1


Carriage
Stand Legs
Media Tables
Accessory Kit
UV Power Supply
Ink Boxes
Ink Drip Tray
Ink Box Rack
Power line conditioner
Stand Crossbrace

2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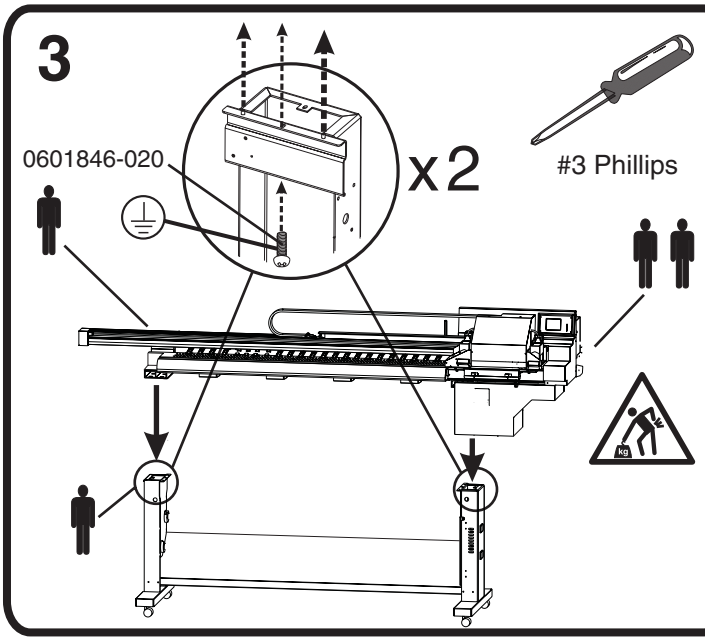
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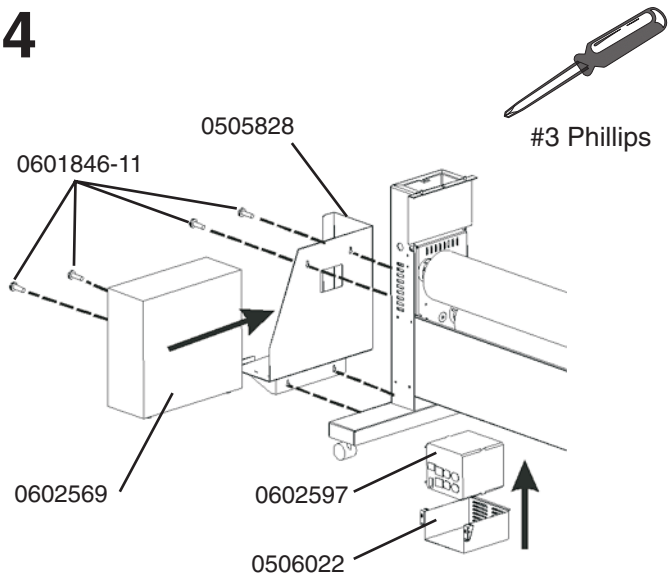
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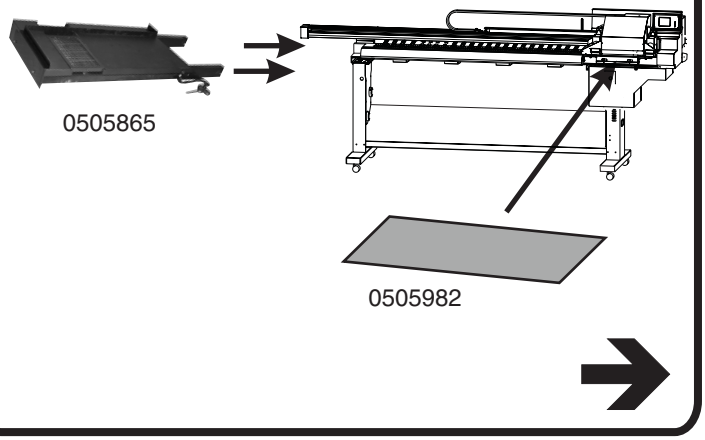
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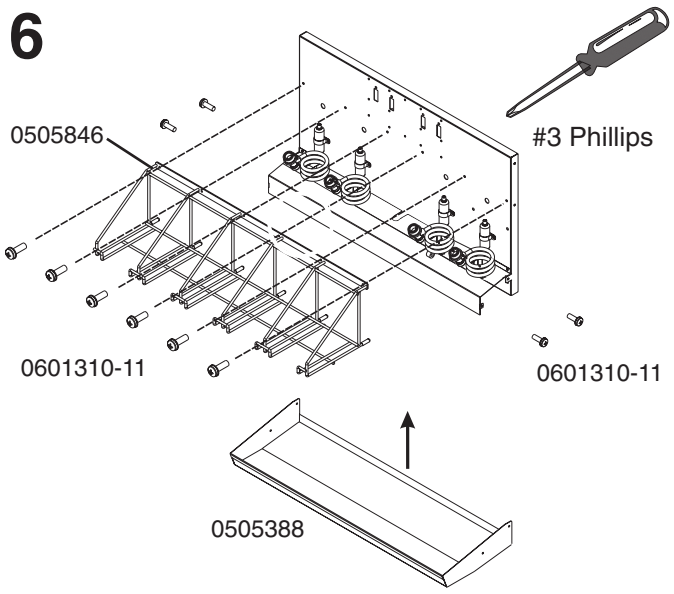

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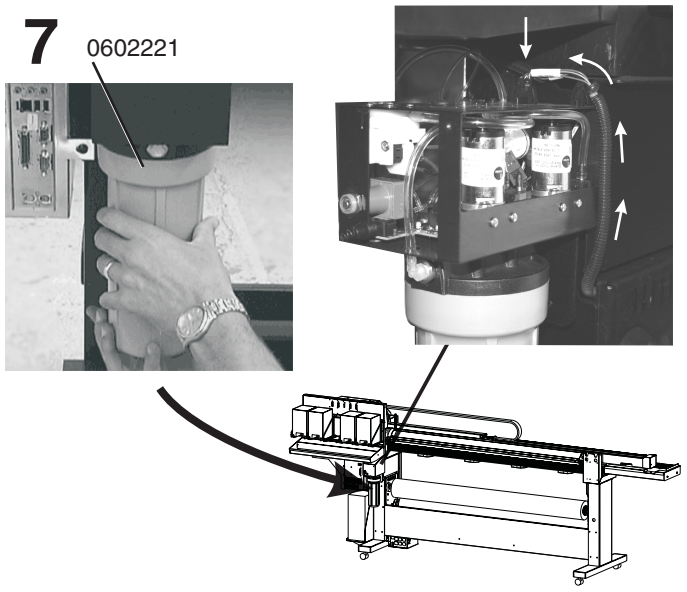

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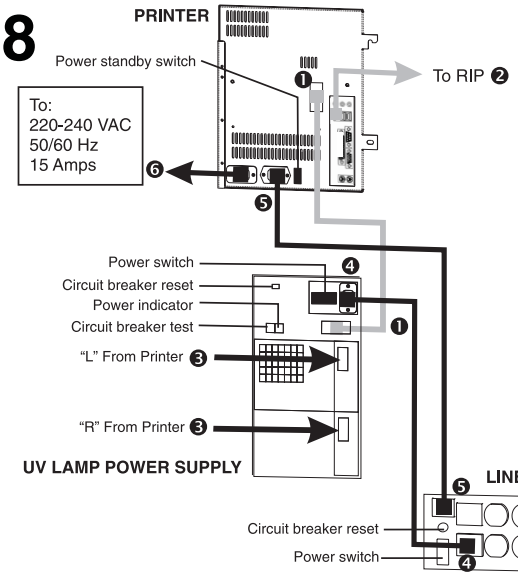

❶ 0602554 Data Cable

❷ 0502323 VideoNet Cable

❸ Data cables from printer

❹ 0602601 Power cord

❺ 0602533 Power cord

❻ 0501506 Power cord, U.S. *OR*
0602360 Power cord, Europe

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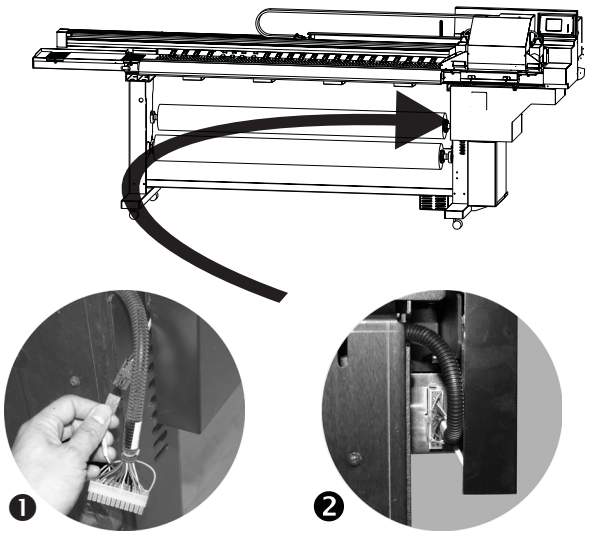

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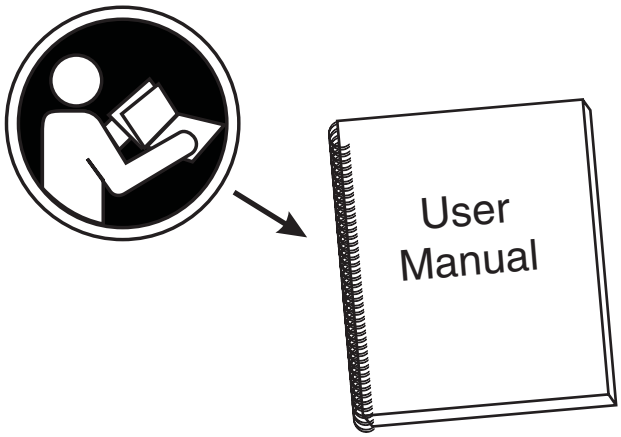


PARTS LIST

SEE USER MANUAL FOR DETAILED INSTRUCTIONS

Part No.	Qty.	Part Description	Notes
0505857		**ASSY,PRINTER,SHARK,W/O_STAND**	
0505858		**ASSY,STAND,SHARK**	
0505669	1	BAR,STAND,GATOR,CROSS,BACK_SUPPORT	
	1	Right Leg	
	1	Left Leg	
	2	Spool and collets	
0505856		**KIT,ACCESSORY,SHARK**	
0503297	2	COLLAR,MEDIA_HANDLER,RATTLER,LOCKING, MOLDED	2" CORE SUPPORT
0504334	1	STOP,PLUNGER_BLK,ATHENA,TAKEUP_SPOOL	
0505767	1	BLK,STPP,GATOR,PINCH_ROLLER_RELEASE	PURPLE BLOCK
0505982	1	CVR,WIPE_STATION,SHARK	
0505984	1	GAUGE,HEAD_HEIGHT,SHARK,CAMERA	
0506022	1	TRAY,LINE_CONDITIONER,SHARK	
0601977	2	KEY,HEX,M5,6"_LG	THANDLE HEX WRENCH
0602221	0	RESERVOIR,VACUUM,3/8"_NPT	QTY 1-BLUE RES
0602448	1	BOTTLE,125ML,WIDE_MOUTH,UNITARY_WASH, LDPE	HEAD CLEANING FLUID
0506015	1	LBL,SHARK,PRINTHD_FLUSH,BOTTLE_ID	CLEANING FLUID LBL
0602481-006	1	PWR_SPLY,11W,90-264VAC,24VDC	USE WITH VP SYSTEM
0602482	1	PLUG,AC_ADPTR_KIT,PWR_SPLY,0602481	USE WITH 0602481-006
0602487	12	CLOTH,HI_ABSORB,LINT_FREE,9"X9"	
0602165	12	GLOVE,SURGICAL,LATEX,XL	
0602594	1	SCRAPER,WIPING_STATION,SHARK,PLASTIC	
0602599	12	LABEL,DOSE,UV	SHIP/STORE OPAQ ENV
0706295	1	FORM,CUSTOMER_RETURN,UV_DOSE	
	1	Wiper Tool	
0602539	1	FITTING,QUICK_CONNECT,BAG_IN_BOX	
0602543	6	TUBE,LLDPE,0.125"_ID,0.25"_OD,BLACK	
		Fasteners	
0601310-112	0	SCREW,PPH,SEMS,M4,0.7_PITCH, ST,12MM_LG,BLCK	QTY 4-DRIP TRAY, QTY 6 INK RACK
0601310-125	2	SCREW,PPH,SEMS,M4,0.7_PITCH,ST,25MM_LG, BLCK	LINE COND TRAY
0601846-020	2	SCREW,PPH,SEMS,M6,1.0_PITCH, ST,20MM_LG	STAND->PRNTER
0601846-110	0	SCREW,PPH,SEMS,M6,1.0_PITCH, ST,10MM_LG,BLCK	UVPS ATTACH, QTY 4
0602462-120	0	SCREW,HEX,M6,SERRATED_FLANGE,20MM_LNG, BLK	QTY 12-STAND ASSY
		Cables	
0501506	1	ASSY,CBL,PWR,DOMESTIC	US PWR CBL
0502323	1	ASSY,CBL,CM_P,VIDEONET,25'_LG	VIDEONET CABLE
0602360	1	CBL,PWR,EUROPE,16A,2.5M	EUR PWR CBL
0602533	1	CBL,PWR,DOMESTIC,PC_ADPTR_CORD, 250VAC_10A,1M	EBOX->COND
0602554	1	CBL,PARALLEL,25_PIN,1_TO_1,1M	DATA EBOX->UVBOX
0602601	1	CBL,PWR,C14/C19,250VAC/10A,1M	COND->UVBOX

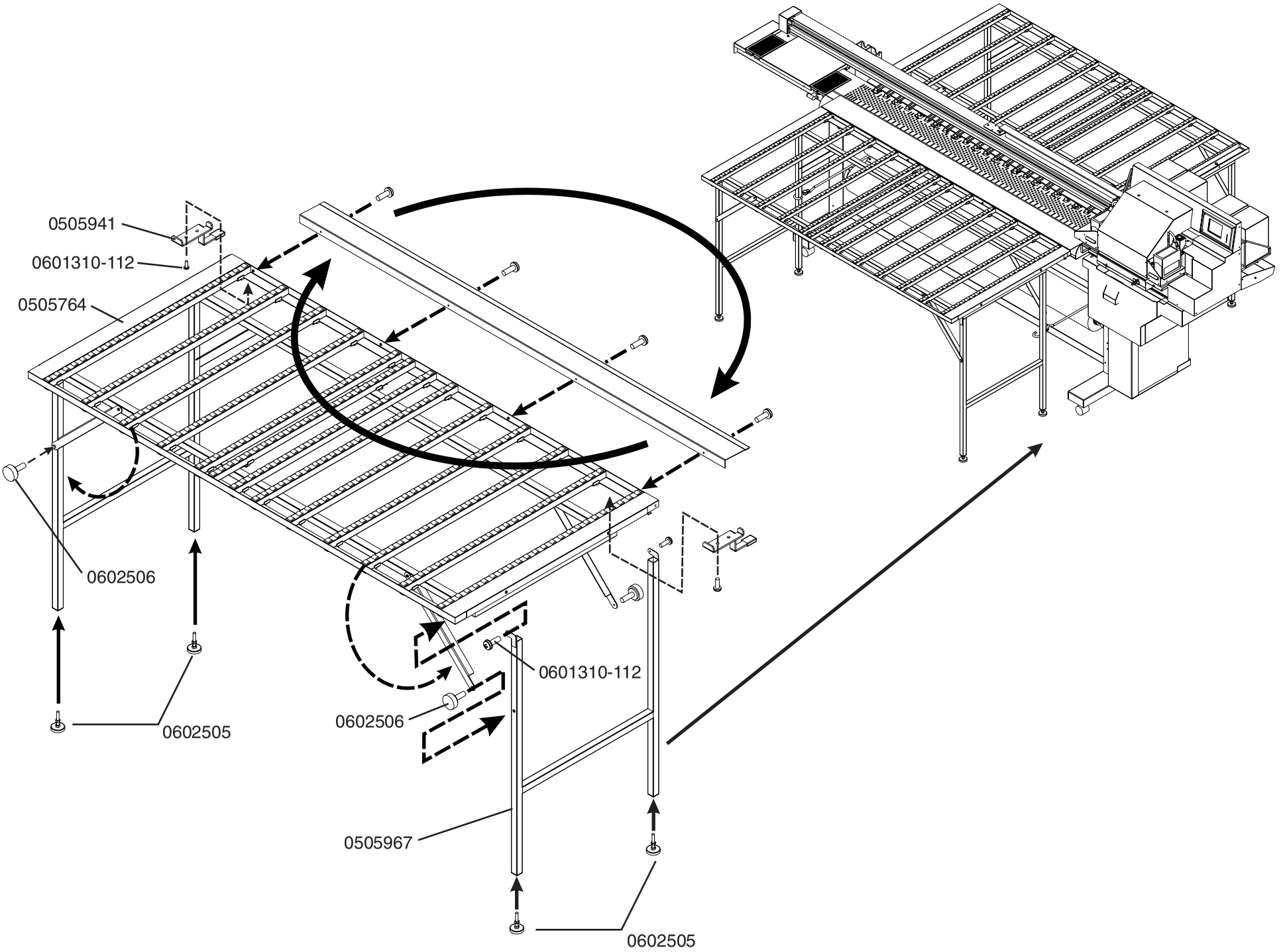
(Continued on next page)

Part No.	Qty.	Part Description	Notes
		User Documentation	
0706273	1	MANUAL,USER,DM_72UVR,PRINTER	
0706274	1	MANUAL,GUIDE,DM_72UVR,SITE_PREP	
0706277	1	MANUAL,INSTRUCTIONS,DM_72UVR,TABLE_ASSY	
0706278	1	WARRANTY,PTR,DM_72UVR	
0706283	1	MSDS,INK,SOLACHROME_UV	
0706284	1	MSDS,HEAD_FLUSH,SOLACHROME_UV	
		Other Parts	
		Input and output tables: see 0706277 for parts list	
		UV Power Supply and Line Conditioner	
0602569	1	PWR_SUPPLY,UV_CURE	
0602597	1	PWR_SPLY,LINE_CONDITIONER,200-240VAC,2000W	
0505828	1	WLDT,STAND,SHARK,PS_SHELF	
0505865	1	ASSY,PARKING_STATION,SHARK	
0505388	1	PAN,OHS,GATOR,INK_DRIP_TRAY	
0505846	1	RACK,OHS,SHARK,INK_BOX	
0700422	1	DECLARATION,CONFORMITY,DM_72UVR	
0706275	1	MANUAL,INSTRUCTIONS,DM_72UVR, UNPACK_ASSY	
0602469	1	TUBE,CARDBOARD,3"_ID,73"_LG,1/4"_THICK	TAKEUP MEDIA CORE
0901147-001	1	INK,SLC,DM_72UVR,CYAN	
0901147-002	1	INK,SLC,DM_72UVR,MAGENTA	
0901147-003	1	INK,SLC,DM_72UVR,YELLOW	
0901147-004	1	INK,SLC,DM_72UVR,BLACK	
0901147-500	1	INK,SLC,DM_72UVR,HEAD_FLUSH	
0900993-007	1	MEDIA,ULTRASMOOTH_VINYL,72_100	

PARTS LIST

SEE USER MANUAL FOR DETAILED INSTRUCTIONS

Part No.	Qty	Description	Notes
0505746	1	ASSY,INPUT_ROLLER_TABLE,GATOR,STPP	
0505764	1	ASSY,OUTPUT_ROLLER_TABLE,GATOR,STPP	
0505967	2	LEG,STPP,GATOR,WELDMENT,STAND	1 PER TABLE
0602505	8	PAD,LEVELING,5/16"-18 THREAD	4 PER TABLE LEG
0505941	4	STOP,STPP,SHARK,PLATEN	2 INPUT TABLE, 2 OUTPUT TABLE
0601310-112	4	SCREW,PPH,SEMS,M4,0.7_PITCH, ST,12MM_LG,BLCK	1 PER STOP
0505715	1	FENCE,STPP,GATOR,UPPER	INPUT TABLE
0602043-005	2	WSHR,FENDER,ST,METRIC,M4	FENCE
0602506	10	THUMB_SCREW,KNURLED_HEAD,M4,0.7_MM_PITCH	2 FENCE -> TABLE, 4 BRACE -> LEG PER TABLE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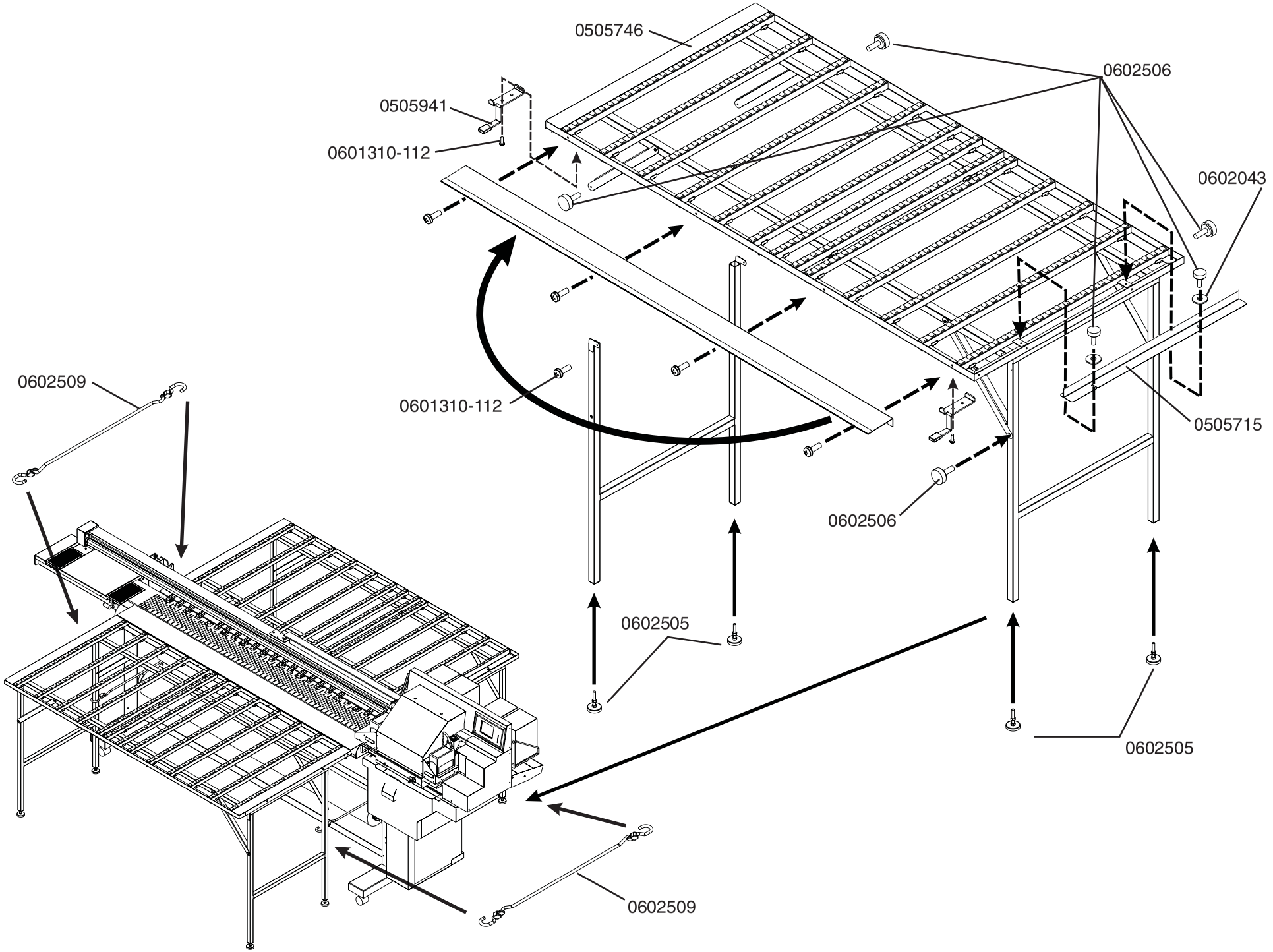
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MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product Name: SolaChrome UV® Ink
Commonly used in the following printer(s):
DisplayMaker 72UVR

Product Number: 0901147 series part number

Chemical Name: UV-curable Inkjet Printing Fluid
Chemical Family: Acrylate/Polymer/Pigment Blend
CAS Number: Blend

Company Identification

MacDermid ColorSpan Corporation
7090 Shady Oak Road
Eden Prairie, MN 55344 USA

In case of exposure, please contact local Poison Control Center
Emergency phone for spills, leaks, fire, exposure or accident call
CHEMTREC: 1-800-424-9300 or 1-703-527-3887
Product information: (800) 925-0563
Revision Date: 11/08/04

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS	CAS No.	CONTENTS	EINECS	SYMBOL	RISK No.
2-BENZYL-2-DIMETHYLAMINO-4-MORPHOLINOBUTYROPHENONE	119313-12-1	0-1 %	404-360-3	N	50/5
SUBSTITUTED PHOSPHINE OXIDE	75980-60-8	1-5 %		Xn	52/53,62
MULTIFUNCTIONAL ACRYLATE	84170-74-1	10-30 %		Xi	36/38
VINYLCAPROLACTAM	2235-00-9	10-30 %	218-787-6	Xn	22,36
ACRYLIC ACID,MONOALKYL,ALKYLARYL ESTER	3076-04-8	10-30 %		Xi,N	36/37/38 51/5

3. HAZARDS IDENTIFICATION

Irritating to eyes, respiratory system and skin. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

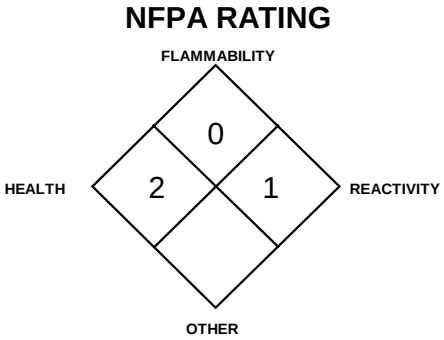
Hazardous Materials Identification System (HMIS) Codes:

Health Hazard (Blue): 2
Flammability Hazard (RED): 0
Physical Hazard (Yellow): 1
Personal Protection Equipment: B – eye protection and gloves

4. FIRST AID MEASURES

EYES: Remove victim immediately from source of exposure. Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eyelids. Continue to rinse for at least 15 minutes and get prompt medical attention.
SKIN CONTACT: Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water for several minutes. Continue to rinse for at least 15 minutes. Get prompt medical attention if irritation persists after washing.
INGESTION: Rinse mouth thoroughly. Drink plenty of water. DO NOT induce vomiting. Get medical attention immediately.
INHALATION: Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. If respiratory problems, artificial respiration/oxygen. Keep the affected person warm and at rest. Get prompt medical attention.
GENERALITIES: Give nothing by mouth to an unconscious person. If breathing is irregular or has stopped, give artificial respiration. In all cases of doubt or if symptoms persist, seek medical attention and show this sheet to the doctor.
ANTIDOTE: No specific antidote exists. Treat symptomatically.

5. FIRE FIGHTING MEASURES



EXTINGUISHING MEDIA: Powder, Foam, Carbon dioxide (CO_2). DO NOT use water if avoidable.
SPECIAL FIRE FIGHTING PROCEDURES: Use water spray only to cool containers! Do not put water on leaked material. Avoid water in straight hose stream; will scatter and spread fire.
UNUSUAL FIRE & EXPLOSION HAZARDS: Generates massive smoke during fire.
CONDITIONS OF FLAMMABILITY: Heat, sparks, or flame.
UPPER FLAMMABLE LIMIT: Not available.
LOWER FLAMMABLE LIMIT: Not available.
AUTO-IGNITION TEMPERATURE: Not available.
EXPLOSION DATA – SENSITIVITY TO MECHANICAL IMPACT: Not available.
EXPLOSION DATA – SENSITIVITY TO STATIC DISCHARGE: Not available.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS DURING SPILL: Wear necessary protective equipment to avoid contact with skin or eyes. Avoid breathing vapors.
ENVIRONMENTAL PRECAUTIONS: Do not allow to enter drains or effluent systems.
SPILL CLEANUP METHODS: Clean-up personnel should use respiratory and/or liquid contact protection. Ventilate. Collect and contain spilled material in a chemical absorbent (clay-based material, universal binder, etc.).

7. HANDLING AND STORAGE

HANDLING: Avoid any contact with skin and eyes. Avoid breathing vapors, ventilate well. Use approved respirator if air contamination is above accepted level. Wear splash goggles, multi-layer gloves and also an apron when handling large quantities.
STORAGE: Keep containers tightly closed in a cool, dry, ventilated area. Store away from traffic. Protect from light including direct sun light. Store isolated from oxidizing materials, acids, and alkalis. Avoid storing for very long time periods. Storage temperature: Standard room temperature (68 degrees Fahrenheit).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS: None of the component substances have established exposure standards per OSHA, NIOSH or ACGIH.

PROTECTIVE EQUIPMENT:

PROCESS CONTROL MEASURES: Provide eyewash station.
VENTILATION: Provide adequate general and local exhaust ventilation. No specific recommendation, but respirator protection may be required under exceptional circumstances when excessive air contamination exists.
PROTECTIVE GLOVES: Appropriate protective gloves must be used if there is a risk of direct contact or splash.
EYE PROTECTION: Wear splash-proof eye goggles to prevent any possibility of eye contact. Available emergency eyewash station is recommended.
OTHER PROTECTION: Wear appropriate clothing to prevent any possibility of liquid contact.
WORK/HYGIENIC PRACTICES: Avoid contamination of food, drink, etc. No smoking when handling. Wash at the end of each work shift and before eating. Promptly remove any clothing that becomes contaminated. Isolate contaminated clothing and wash before reuse. Use appropriate skin cream to prevent drying of skin.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid
COLOR: Cyan, Magenta, Yellow, or Black
ODOR: Characteristic
ODOR THRESHOLD: Not available.
pH VALUE: Not applicable. Product does not dissociate in water
SOLUBILITY: Soluble in most organic solvents. Not readily soluble in water.
SOLUBILITY VALUE (g/100g H2O/20°C):<10
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available.
SPECIFIC GRAVITY (Water=1): 1.02 – 1.1 @ 25 °C
VAPOR DENSITY (air=1): >1
VAPOR PRESSURE: <1mmHg @ 25 °C
EVAPORATION RATE: <0.05 (BuAc=1)
VISCOSITY: 10 - 30 cps @ 25 °C
FREEZING POINT: Not available.
BOILING POINT (°C): >100 @ 760mmHg
FLASH POINT (°C): >95 FLASH POINT METHOD: Closed cup

10. STABILITY AND REACTIVITY

STABILITY: Normally stable. Avoid heat, sparks, flames.
CONDITIONS TO AVOID: Will react violently with free radical initiators, strong oxidizing agents, and strong alkalis.
HAZARDOUS POLYMERIZATION: May polymerize.
HAZARDOUS DECOMPOSITION PRODUCTS: Fire creates carbon monoxide (CO) and Carbon Dioxide (CO2).

11. TOXICOLOGICAL INFORMATION

HEALTH HAZARDS,GENERAL: Acrylate components have irritant properties. Prolonged or repeated contact with skin or mucous membranes may result in irritant symptoms such as redness, blistering or dermatitis. Symptoms may be delayed.
SKIN: Irritating to skin.
EYES: Irritating to eyes.
INHALATION: Irritating to respiratory system.

TOXICITY DATA:

INGREDIENTS	CAS No.	LD50 Rat(Oral)
2-BENZYL-2-DIMETHYLAMINO-4-MORPHOLINOBUTYROPHENONE	119313-12-1	>5000mg/kg
SUBSTITUTED PHOSPHINE OXIDE	75980-60-8	>5000mg/kg
MULTIFUNCTIONAL ACRYLATE	84170-74-1	>5000mg/kg
VINYLCAPROLACTAM	2235-00-9	1400mg/kg
ACRYLIC ACID,MONOALKYL,ALKYLARYL ESTER	3076-04-8	No std

SENSITIZATION TO PRODUCT: Not available.
CARCINOGENICITY: Not available.
REPRODUCTIVE TOXICITY: Not available.
TERATOGENICITY: Not available.
MUTAGENICITY: Not available.
NAME OF TOXICOLOGICALLY SYNERGISTIC PRODUCTS: Not available.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS: Dangerous to the environment. May cause long-term effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

The advice in this paragraph is of a general nature only. This product must be disposed of via a licensed contractor and shall be disposed of in accordance with federal, provincial, state, and local environmental control regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Do not allow this strongly colored product to enter an effluent system. Dispose of containers as special waste.
GENERAL/CLEANING: Refer to Section 7 before handling the product or containers.
European Waste Catalogue Number (EWC) 08 03 12

14. TRANSPORTATION INFORMATION

GENERAL: Not regulated.

15. REGULATORY INFORMATION

LABEL FOR SUPPLY:

IRRITANT

USA: All component substances are TSCA registered.

CANADA: All component substances are on the DSL or NDSL.

16. OTHER INFORMATION

RISK PHRASES:
R-22 Harmful if swallowed.
R-36 Irritating to eyes.
R-37 Irritating to respiratory system.
R-38 Irritating to skin.
R-50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R-51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R-52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R-62 Possible risk of impaired fertility.
SAFETY PHRASES:
S-24/25 Avoid contact with skin and eyes.
S-26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S-36/37 Wear suitable protective clothing and gloves.
S-60 This material and its container must be disposed of as hazardous waste.
EC DIRECTIVES: Dangerous Preparations Directive 1999/45 and its amendments. System of specific information relating to Dangerous Preparations 91\155.
UK REGULATORY REFERENCES: Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (CHIP 3), S.I. 2002 No. 1689. Water Resources Act 1991. Special Waste Regulations 1996.

The data in this Material Safety Data Sheet relates only to the specific material designated herein. It does not relate to use in combination with any other material or in any process. The information contained herein is based upon data obtained from the manufacturer and/or recognized technical sources. This information is believed to be correct, but does not purport to be all-inclusive and shall be used only as a guide. Since the condition of handling and use are beyond our control, MacDermid ColorSpan Corporation assumes no liability for loss or injury resulting from the use of this product or the information herein. All chemicals may present unknown health hazards and should be used with caution. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunto with respect to the information contained herein or the product to which the information refers. It is the user's responsibility to determine the suitability of this information for the adoption of necessary safety precautions and/or compliance with federal, provincial, state, and local laws and regulations.

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product Name: Print Head Flush for SolaChrome UV® Inks
Commonly used in the following printer(s):
DisplayMaker 72UVR

Product Number: 0901147-500
Chemical Name: Diethylene glycol monoethyl ether acetate
Chemical Family: Glycol Ether Solvent
CAS Number: 112-15-2

Company Identification

MacDermid ColorSpan Corporation
7090 Shady Oak Road
Eden Prairie, MN 55344 USA

In case of exposure, please contact local Poison Control Center
Emergency phone for spills, leaks, fire, exposure or accident call
CHEMTREC: 1-800-424-9300 or 1-703-527-3887
Product information: (800) 925-0563
Revision Date: 11/08/04

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS	CAS No.	CONTENTS	EINECS	SYMBOL	RISK No.
2-(2-ETHOXYETHOXY)ETHYL ACETATE	112-15-2	60-100 %	203-940-1	Xi	36/38

3. HAZARDS IDENTIFICATION

Irritating to eyes and skin.

Hazardous Materials Identification System (HMIS) Codes:

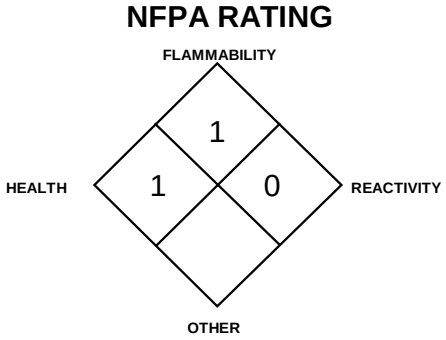
Health Hazard (Blue): 1
Flammability Hazard (RED): 1
Physical Hazard (Yellow): 0
Personal Protection Equipment: B – eye protection and gloves

4. FIRST AID MEASURES

EYES: Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eyelids. Continue to rinse for at least 15 minutes and get immediate medical attention.
SKIN CONTACT: Remove affected person from source of contamination. Promptly wash contaminated skin with soap or mild detergent and water. Promptly remove clothing

if soaked through and wash as above. Get prompt medical attention if symptoms occur after washing.
INGESTION: After liquid has been swallowed, induce vomiting. Never make an unconscious person vomit or drink fluids. Rinse mouth thoroughly. Provide fresh air, warmth and rest, preferably in comfortable upright sitting position. Get medical attention immediately.
INHALATION: Move the exposed person to fresh air at once. Keep the affected person warm and at rest. Get prompt medical attention.
GENERALITIES: In all cases of doubt or if symptoms persist, seek medical attention and show this sheet to the doctor.

5. FIRE FIGHTING MEASURES



EXTINGUISHING MEDIA: Water spray, fog or mist. Carbon dioxide (CO2). Dry chemicals, sand, dolomite etc. Foam.
SPECIAL FIRE FIGHTING PROCEDURES: Use presssurized air mask if substance is involved in a fire. Cool containers exposed to flames with water until well after the fire is out.
UNUSUAL FIRE & EXPLOSION HAZARDS: Not available.
CONDITIONS OF FLAMMABILITY: Heat, sparks, or flame.
UPPER FLAMMABLE LIMIT: Not available.
LOWER FLAMMABLE LIMIT: Not available.
AUTO-IGNITION TEMPERATURE: 360^{o} C
EXPLOSION DATA – SENSITIVITY TO MECHANICAL IMPACT: Not available.
EXPLOSION DATA – SENSITIVITY TO STATIC DISCHARGE: Not available.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS DURING SPILL: Avoid contact with skin or eyes. Avoid breathing vapors. Exclude sources of ignition and ventilate the area.
SPILL CLEANUP METHODS: Clean-up personnel should use respiratory and/or liquid contact protection. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Collect and contain spilled material in a chemical absorbent (clay-based material, universal binder, etc.). Small quantities may be flushed to drains with plenty of water.

7. HANDLING AND STORAGE

HANDLING: Keep away from heat, sparks, ignition sources and open flame. Avoid any contact with skin and eyes. Avoid breathing vapors, ventilate well. Wear splash goggles and gloves when handling large quantities.
STORAGE: Keep in cool, dry, ventilated storage in containers tightly closed. Store away from traffic and out of reach of children. Flammable/combustible - store isolated from oxidizing materials, heat, and flames. Ground container and transfer equipment to eliminate static electric sparks. May attack some plastics, rubber, and coatings.
Storage temperature: Standard room temperature (68 degrees Fahrenheit).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS: None of the component substances have established exposure standards per OSHA, NIOSH or ACGIH.

PROCESS CONTROL MEASURES: Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station.
VENTILATION: Provide adequate general and local exhaust ventilation.
PROTECTIVE GLOVES: Appropriate protective gloves must be used if there is a risk of direct contact or splash. Use protective gloves made of: Neoprene.
EYE PROTECTION: Wear splash-proof eye goggles and face shield to prevent any possibility of eye contact. Available emergency eyewash station is recommended.
OTHER PROTECTION: Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapor contact.

WORK/HYGIENIC PRACTICES: Avoid contamination of food, drink, etc. No smoking when handling. Wash at the end of each work shift and before eating. Promptly remove any clothing that becomes wet. Isolate contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid
COLORS: Colorless
ODOR: Characteristic
ODOR THRESHOLD: Not available.
pH VALUE: Not applicable. Product does not dissociate in water
SOLUBILITY: Soluble in water; miscible in most organic solvents
SOLUBILITY VALUE (g/100g H2O/20°C): Not available.
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available.
SPECIFIC GRAVITY (Water=1): 1.01 @ 20 °C
VAPOR DENSITY (air=1): 6.07
VAPOR PRESSURE: 0.1 mmHg @ 20 °C
EVAPORATION RATE (Butyl Acetate=1): 0.0063
VISCOSITY: Not available.
FREEZING POINT (°C): -25
BOILING POINT (°C): 217 @ 760mmHg
FLASH POINT (°C): 113 FLASH POINT METHOD: Not Available
AUTO IGNITION TEMPERATURE (°C): 360

10. STABILITY AND REACTIVITY

STABILITY: Normally stable. Avoid: Heat, sparks, flames.
HAZARDOUS POLYMERIZATION: Not Relevant.

11. TOXICOLOGICAL INFORMATION

INHALATION: Gas or vapor in high concentrations may irritate respiratory system.
SKIN: Irritating to skin.
EYES: Irritating to eyes.

TOXICITY DATA:

2-(2-ETHOXYETHOXY)ETHYL ACETATE 112-15-2
LD50(Rat)Oral 11000 mg/kg LD50(Rabbit)Skin 15000 mg/kg

Unless otherwise specified:
SENSITIZATION TO PRODUCT: Not available.
CARCINOGENICITY: Not available.
REPRODUCTIVE TOXICITY: Not available.
TERATOGENICITY: Not available.
MUTAGENICITY: Not available.
NAME OF TOXICOLOGICALLY SYNERGISTIC PRODUCTS: Not available.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS: Not regarded as dangerous for the environment.
BIO-ACCUMULATION: Bio-accumulation not likely.
MOBILITY: Partly miscible with water.
DEGRADABILITY: Readily biodegradable.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: The advice in this paragraph is of a general nature only. This product must be disposed of via a licensed contractor and shall be disposed of in accordance with federal, provincial, state, and local environmental control regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Do not allow this strongly colored product to enter an effluent system. Dispose of containers as special waste.

GENERAL/CLEANING: Refer to Section 7 before handling the product or containers. European Waste Catalogue Number (EWC) 08 03 12

14. TRANSPORTATION INFORMATION

GENERAL: Not regulated.

15. REGULATORY INFORMATION

LABEL FOR SUPPLY:

IRRITANT

USA: All component substances are TSCA registered.

CANADA: All component substances are on the DSL.

16. OTHER INFORMATION

RISK PHRASES:
R-36/38 Irritating to eyes and skin.
SAFETY PHRASES:
S-24/25 Avoid contact with skin and eyes.
S-26 In case of contact with eyes, rinse immediately with plenty of water and seek medical attention.
S-37/39 Wear suitable gloves and eye protection.
S-60 This material and its container must be disposed of as hazardous waste.

The data in this Material Safety Data Sheet relates only to the specific material designated herein. It does not relate to use in combination with any other material or in any process. The information contained herein is based upon data obtained from the manufacturer and/or recognized technical sources. This information is believed to be correct, but does not purport to be all-inclusive and shall be used only as a guide. Since the condition of handling and use are beyond our control, MacDermid ColorSpan Corporation assumes no liability for loss or injury resulting from the use of this product or the information herein. All chemicals may present unknown health hazards and should be used with caution. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunto with respect to the information contained herein or the product to which the information refers. It is the user's responsibility to determine the suitability of this information for the adoption of necessary safety precautions and/or compliance with federal, provincial, state, and local laws and regulations.